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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/952,996	04/10/1998	MATS LEIJON	70559-2/8241	3267

25269 7590 11/14/2003

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EXAMINER

MULLINS, BURTON S

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	08/952,996	LEIJON ET AL.	
	Examiner	Art Unit	
	Burton S. Mullins	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 31-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 31-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 1997 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Suspension

1. Pursuant to the Board of Appeal's final decision regarding U.S. Application No. 08/973,019, suspension has been lifted. As set forth in the decision on petition requesting suspension, the instant application was granted a suspension pending the decision on appeal of the '019 application. On November 27, 2002, the Board affirmed the rejection of the '019 application and on August 27, 2003, the Board denied applicant's request for reconsideration, thus terminating prosecution of the '019 application. An action on the merits follows.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “insulated” and “non-insulated” strands (claim 10); the “stator wound at the plant site” (claim 31); the “stator manufactured at the factory axially divided into a plurality of plate-shaped, separate sections” (claim 32) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 22-24, 27, 32 and 42 are objected to because of the following informalities: In claims 22-23, change “is carried out with” to —comprises a—. In claim 24 change “is arranged for” to —comprises—. In claims 27 and 32, insert —the— before “peripheral direction”. In claim 42, delete second “operable”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-9, 11, 15-19, 21-27, 29 and 31-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant’s disclosed Prior Art Figure 3 in view of Elton et al. (US 4,853,565). Applicant’s prior art figure 3 (discussed on p.14, lines 9-33 of the specification) substantially discloses a turbo-generator plant with generator 100, turbine 102, shaft 101, and a generator winding (inherent), but does not teach that the generator winding comprises a solid insulation system including at least one of an inner semiconducting layer and an outer semiconducting layer, each layer forming an equipotential surface, and a solid insulation.

Elton et al. teach a generator (abstract, lines 8-9) including a cable (Fig.7) comprising an internal grading layer of semi-conducting pyrolyzed glass fiber layer in electrical contact with the cable conductor. In another form of embodiment, Elton et al. teach an electrical cable provided with an exterior layer of internal grading layer of semi-conducting pyrolyzed glass fiber layer in contact with an exterior cable insulator with a predetermined reference potential.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the cable assembly having semiconducting layers as taught by Elton et al. in the generator as disclosed in prior art figure 3 since such a modification according to Elton et al. would have been desirable to provide a conductor which prohibits the development of corona discharge (abstract, c.1, lines 6-11).

In regard to forming the semiconducting layer with the same coefficient of thermal expansion as that of the insulation layer, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed these layers with similar coefficients since it was known in the art that the expansion rate of the two layers would be the same and this is desirable in order to prevent cracking of the insulation and wear between the two.

Regarding claims 2-3, a magnetic core with laminated sheets are inherent in the generator of Elton (c.1, lines 15-18; Fig.5).

6. Claims 10, 28 and 33-44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's disclosed prior art Figure 3 in view of Elton et al. (US 4,853,565) and further in view of Takaoka et al. (USP 5,094,703). Applicant's prior art figure 3 and Elton, et al. disclose the claimed invention except for a teaching of having the strands of the electrical conductor being insulated and uninsulated.

Takaoka et al., as seen in figures 7-8 and 10-11 teach having a stranded conductor for an electrical cable comprising a combination of uninsulated and insulated strands. Cupric oxide films form the insulation and helps minimize the winding ratio (c.2, lines 22-26).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the teaching of Takaoka et al. having insulated and uninsulated electrical conductor strands and to have modified the device of applicant's prior art and Elton et al. since such a modification would reduce the winding ratio and amount of insulation needed, thus minimizing assembly and production costs.

7. Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's disclosed prior art Figure 3 in view of Elton et al. and further in view of Breitenbach et al. (USP 4,785,138). Applicant's prior art figure 3 and Elton et al. disclose the claimed invention except for a teaching of having metal screen and sheath in the cable.

Breitenbach et al. teach that it is known to utilize metal screen and sheath in the cable.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the arrangement of Breitenbach et al. in the device as disclosed by Elton et al. since such a modification according to Breitenbach et al. in column 4, lines 59-69 would have been desirable to provide mechanical protection and electrical shield for the cable.

8. Claims 13 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's disclosed prior art Figure 3 in view of Elton et al. and further in view Lauw (USP 4,982,147). Applicant's prior art figure 3 and Elton et al. disclose the claimed invention except for a teaching of having or not having a step-up transformer in the system device.

Lauw in column 6, lines 50-52 teach that use of transformers to step-up or step down the voltage are contingent upon the requirements of the application. In the present application, having a voltage higher than 30kV-36kV, it would have been an obvious matter of design

choice to one having ordinary skill in the art to utilize a step-up transformer in order to increase and meet the required voltage in the application.

9. Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's disclosed prior art Figure 3 in view of Elton et al. and further in view Shildneck (USP 3,014,139). The prior art generator and Elton do not teach cooled cables, per se. Shildneck teaches an improved continuous winding for large turbine-driven generators, the winding employing an improved form of flexible insulated conductor for the laminated armature core of the dynamo-electric machine, with conduits 9 containing coolant for direct cooling of the strands 7 (c.3, lines 67-70).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to used the cooling arrangement of Shildneck et al. in the device of applicant's prior art and Elton et al. since this would have been desirable for direct cooling of the cable strands.

Response to Arguments

10. Applicant's arguments filed 23 September 2002 have been fully considered but they are not persuasive. Applicant's primary argument is that Elton does not teach a cable used as a winding in an electric machine. This is not convincing because Elton teaches that the embodiments shown in Figs.1-7 are suitable for use in a dynamoelectric machine (abstract, lines 4-8). The cable of Fig.7 is disclosed as being a further embodiment of Figs.1-6, which are shown to be suitable for windings on a stator in a dynamo-electric machine (c.8, lines 26-38). In response to applicant's argument that there is no suggestion to combine the references,

the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Elton's cable layers provide protection from corona discharge. Applicant further argues that Elton's cable is stiff and if bent would crack and not be able to withstand high voltage. The examiner responds that Elton at c.8, lines 3-9 notes that the semi-conducting layer can be chopped, mixed with resin and molded, or blown on any complex-shaped substrate, which suggests that the semi-conducting layer can be molded or blown onto a cable without causing cable rigidity. Further, Elton teaches that the insulated electrical windings 50 initially extend axially and then bend circumferentially (c.5, line 67-c.6, line 4; Fig.5). Such a bend requires adequate cable flexibility.

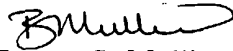
Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone number for the organization where this application or proceeding is assigned is 305-1341.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.


Burton S. Mullins
Primary Examiner
Art Unit 2834

11 November 2003
bsm